UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,175	12/30/2003	Adrian P. Stephens	1000-0030	7872

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EXAMINER
JAIN, RAJ K

ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/749,175	STEPHENS ET AL.
	Examiner	**Art Unit**	
	Raj K. Jain	2616	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _8/2/07_.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-43_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-43_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _30 December 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because the length of abstract is

incorrect. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(e) the invention was described in (1) an application for patent, published under section 122(b), by
another filed in the United States before the invention by the applicant for patent or (2) a patent
granted on an application for patent by another filed in the United States before the invention by the
applicant for patent, except that an international application filed under the treaty defined in section
351(a) shall have the effects for purposes of this subsection of an application filed in the United States
only if the international application designated the United States and was published under Article 21(2)
of such treaty in the English language.

Claims 1-6, 16-25, 33, 34 and 39-42 are rejected under 35 U.S.C. 102(e) as

being anticipated by Sandhu (US 2005/0141407 A1).

Regarding claims 1, 20, 32 and 39, Sandhu discloses a method and system for

use in a wireless network (abstract, fig. 1) , comprising: identifying a plurality of

orthogonal sets of user devices, wherein each orthogonal set in said plurality of

orthogonal sets includes multiple user devices that can be transmitted to concurrently

by an access point using different antenna beams (Fig. 1, has orthogonal sets of users

104, 106, 108 that access the AP 102 via different antenna beams, para 9, 12, 16).;

selecting an orthogonal set from the plurality of orthogonal sets based on a

predetermined selection criterion (best channel conditions can be selected, para 39);

and initiating a spatial division multiple access (SDMA) exchange for the selected

orthogonal set (paras 39-42, once the best channel criteria is selected transmission can

be commenced).

Regarding claims 2, 33, Sandhu discloses selecting an orthogonal set includes

selecting a set based on an amount of data that is buffered for delivery to user devices

within each of said identified orthogonal sets (para 13).

Regarding claims 3, 23, Sandhu discloses selecting an orthogonal set includes:

determining a maximum duration for the SDMA exchange (para 15, transmission is

based on a predetermined time frame); evaluating orthogonal sets in said plurality of

orthogonal sets to determine an amount of data that is buffered for said orthogonal sets

(para 13); and selecting an orthogonal set that has a largest amount of buffered data

that can be delivered within said maximum duration of said SDMA exchange (para 13,

21, higher data rates per subscriber may be used as appropriate).

Regarding claims 4, While Sandu explicity fails to disclose Qos on link status,

examiner takes official notice one skilled in the art will appreciate that QoS in wireless or

wireline communications is fundamental for optimum bandwidth usage and therefore

Examiner asserts that the QoS criteria is inherent within Sandus invention.

Regarding claims 5, Sandhu discloses selecting an orthogonal set includes

using latency related information as part of said predetermined selection criterion (delay

diversity is used to accommodate multipath, para 51).

Regarding claims 6, 16, 24, 25, 34, 42, Sandhu discloses initiating an SDMA

exchange includes simultaneously transmitting data to user devices in said selected

orthogonal set, using corresponding antenna beams, so that a terminal end of the data transmitted to each user device occurs at substantially the same time (paras 17, 18).

Regarding claims 17, 18, Sandhu discloses initiating an SDMA exchange includes transmitting a training request packet to a first user device within the selected orthogonal set (abstract, para12, Fig. 3).

Regarding claims 19, 40, Sandhu discloses initiating an SDMA exchange includes transmitting a multi-user training request packet to all of the user devices within said selected orthogonal set, wherein said multi-user training request packet is transmitted using an antenna beam that encompasses substantially an entire coverage region of the access point (paras 13, 15).

Regarding claims 21, 22, 41, Sandhu discloses an antenna controller (Fig. 1, the AP 102 incorporates an antenna controller for the antenna arrays 112, paras 12 & 15).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7-15, 26-31, 35-38 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu (US 2005/0141407 A1) in view of Kasami et al (US 20020181492 A1).

Sandhu fails to explicitly disclose an ACK request between one or more SDMA

antenna beams and respective users and/or user groups.

Kasami discloses an ACK request between one or more SDMA antenna beams

and respective users and/or user groups (see Figs. 2, 3, paras 6, 65-69, 106-109).

Each subscriber within a group transmits an ACK back to the access point and therefore

acknowledging proper receipt of data). The use of ACK packets allows for

retransmission of data packets from the Access point to subscribers only for lost

packets and not an entire data stream and thus improving network performance by

reducing the number of data packets that have to be retransmitted. Thus it would have

been obvious at the time the invention was made to incorporate the teachings of

Kasami within Sandhu so as to improve network performance by reducing the number

of data packets that have to be retransmitted due to packet loss.

Response to Arguments

Applicant's arguments, filed August 2, 2007, with respect to claims 1-43 have

been fully considered and are persuasive and therefore the examination on the merits of

claims 1-43 comprising of Groups I and II is performed in this Office Action.

Furthermore, claims 44-46 are canceled as non-elected claims and thus not

examined on the merits under this Office Action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raj K. Jain whose telephone number is 571-272-3145. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Raj K. Jain
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Art Unit 2616

September 24, 2007